



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,094	11/12/2003	Jack Goodman	114122.0115US	5305

7590 11/29/2006  
Blank Rome LLP  
600 New Hampshire Ave. N.W.  
Washington, DC 20037

EXAMINER
----------

REDDING, DAVID A

ART UNIT	PAPER NUMBER
----------	--------------

1744

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/926,094

**Applicant(s)**

GOODMAN ET AL.

**Examiner**

David A. Redding

**Art Unit**

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-28,31-38,40-43 and 45-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 40-43 and 45-49 is/are allowed.
- 6) ☒ Claim(s) 1,2,7,9-14,16,17,19-24,31,36,37 is/are rejected.
- 7) ☒ Claim(s) 3-6,15,18,25-28,32-35 and 38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

Applicant's remarks filed 9/15/06 are moot in view of the new grounds of rejections.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,2,7,9-11,13,24,31,36,37, are rejected under 35 U.S.C. 102(e) as being anticipated by US publication 2003/0044777 (Beattie).

Figure 4 illustrates the embodiment which is considered to read on the claimed invention. Figure 4 shows a flow-thru cartridge for holding a wafer (chip) having a plurality of microarrays consisting of through channels. See description of figures 1A and B for details of the chip. Each of the microarrays, consisting of the channels are labeled with specific probes which are specific for specific DNA sequences. The probes are immobilized within the walls of the channels. The cartridge consists of a wafer holder shown in the middle of the figure, the holder being sandwiched between a base (lower chamber) and a cover (upper chamber).

Art Unit: 1744

Each of the parts, holder, base and cover are arranged to provide a fluid-tight flow through cartridge so that reagents and samples can be introduced into the cartridge, passed through the wafer and then out of the cartridge. First seal is provided above the first side of the wafer and a second seal provided below the second side of the wafer in the form of o-rings. The fluid delivery system is described in example # 6. The cartridge is disclosed being used with an optical detection system including charge-coupled devices for imaging the chips (page 3, paragraph [0027], [0036]; page 4, paragraph [0051]. See "Summary of The Invention" section. Although the reference specifically discloses that the cartridge is used with imaging detection system which require that the cover be transparent, there is no specific mention that the cover is transparent.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 1744

Claims 12,14,16,17,19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US publication 2003/0044777 (Beattie) in view of USP 6,458,584 ('584).

The '584 patent is also directed to performing DNA hybridization reactions using DNA chips in a flow-through cartridge, figure 11.

The cartridge (hybridization chamber (1)) is disclosed as having a transparent cover so as to allow optical analysis (example # 2). Accordingly, it would have been obvious to one skilled in the art to provide a transparent cover in the Beattie flow-through cartridge in order to enable in-situ optical analysis as taught in the '584 patent.

The Beattie reference does not go into detail as to how the various parts are held together. However, any manner of conventional fastener, latching, and locking mechanisms are considered to be obvious. The same can be said for the composition of the o-rings used in Beattie or method of manufacturing of the pieces (injection molding).

#### ***Allowable Subject Matter***

Claims 3,4,5,6,15,18,25,26-28,32,33-35,38, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 40-43,45-49 are allowed.

As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

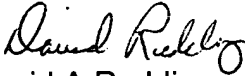
Art Unit: 1744

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Redding whose telephone number is 571-272-1276. The examiner can normally be reached on Mon.-Fri. 6:00 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran-Piazza can be reached on 571-272-1224. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
David A Redding  
Primary Examiner  
Art Unit 1744

DAR